

1. (original) A controllable brake comprising:

- (a) a housing comprising a first chamber and a second chamber;
- (b) a shaft comprising a first shaft end, the shaft extending through the first and second housing chambers;
- (c) a rotor made integral with the shaft substantially at the first shaft end, the rotor having an outer periphery, said rotor being located in the first housing chamber;
- (d) field generating means located in the first housing chamber proximate the outer periphery of the rotor;
- (e) field responsive material located in said first chamber, the rheology of said material being affected by said field generating means; and
- (f) means for controlling and/or monitoring the operation of the brake, said means located in said second chamber.

2. (original) A controllable brake, comprising:

- (a) a rotor comprising first and second rotor surfaces, an outer periphery and at least one working portion proximate to or at the outer periphery;
- (b) a shaft comprising a first shaft end, the rotor being made integral with the shaft at the first shaft end in a manner to restrain relative rotation therebetween;
- (c) a housing having a first chamber and a second chamber said first chamber adapted to house the rotor therein,
- (d) a field controllable material contained within said first chamber in contact with the at least one working portion of the rotor;

- (e) a magnetic field generator located in said first chamber spaced from the rotor, said field generator being adapted to generate a magnetic flux in a direction through a controllable material toward the at least one working portion of the rotor;
- (f) electronics, for operation with the brake, housed in said second chamber.

3. (original) The controllable brake of claim 2, wherein said second chamber is sealed from said first chamber in a manner such that controllable material is not permitted to flow from said first chamber into contact with said second chamber or into contact with said bearings and the shaft extending outside of said first chamber.

4. (withdrawn)

5. (withdrawn)

6. (currently amended) A controllable brake, comprising:

- (a) a rotor having first and second rotor surfaces, an outer periphery, and a working portion on the at least one of first and second rotor surfaces at a position proximate the outer periphery;
- (b) a shaft having said rotor connected thereto in a manner to restrain relative rotation therebetween;
- (c) a housing having a first chamber and a second chamber, said first chamber rotatably housing the rotor therein, and including a magnetic field generator spaced from the rotor, and configured and positioned for generating magnetic flux through a controllable material in a direction parallel to the shaft and perpendicular to the working portion on at least one surface proximate the outer periphery; and

(e) a controllable material contained with said first chamber in contact with at least the working portion of the rotor ; and a plurality of electronics for operation with the brake housed in said second chamber .

7. (currently amended) The controllable brake of claim 6, wherein said magnetic ~~electromagnetic~~ field generator comprises an electromagnetic coil, and poles positioned for generating a flux extending through the controllable material on one side of the rotor, and wherein said rotor comprises a disk.

8. (withdrawn)

9. (withdrawn)

10. (withdrawn)

11. (original) A controllable brake, comprising:

(a) a rotor having first and second rotor surfaces, an outer periphery, and a working portion on the first and second rotor surfaces at a position proximate the outer periphery;

(b) a shaft having said rotor connected thereto at one end of the shaft;

(c) a housing including a first chamber rotatably housing the rotor therein, and a magnetic field generator spaced from the rotor, and configured and positioned for generating magnetic flux through a controllable material in a direction parallel to the shaft and perpendicular to the working portion proximate the outer periphery, and a second chamber containing electronics therein; and

(d) a controllable material contained within said first chamber in contact with at least the working portion of the rotor.

12. (original) The controllable brake of claim 11, wherein said electromagnetic field generator comprises an electromagnetic coil, and poles disposed axially with respect to one side of the rotor, and wherein said rotor comprises a disk.

13. (withdrawn)

14. (withdrawn)

15. (withdrawn)

16. (withdrawn)

17. (withdrawn)

18. (withdrawn)

19. (withdrawn)

20. (withdrawn)

21. (withdrawn)

22. (withdrawn)

23. (withdrawn)

24. (withdrawn)

25. (withdrawn)

26. (withdrawn)

27. (withdrawn)

28. (withdrawn)

29. (withdrawn)

30. (withdrawn)

31. (withdrawn)

32. (withdrawn)

33. (withdrawn)

34. (withdrawn)

35. (withdrawn)

36. (withdrawn)